

Notice of Allowability	Application No.	Applicant(s)	
	09/876,201	HEIDARI ET AL.	
	Examiner	Art Unit	
	Khanh Tran	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed on 02/01/2006.
2. ☒ The allowed claim(s) is/are 3, 6-8, 10 and 14, which have been renumbered as set forth in the Office action.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

1. The Amendment filed on 02/01/2006 has been entered. Claims 3, 6-8, 10 and 14 are pending in this Office action.

2. Claims have been renumbered as shown below, respectively:

claim 6 renumbered as claim 1;

claim 8 renumbered as claim 2;

claim 10 renumbered as claim 3;

claim 3 renumbered as claim 4;

claim 7 renumbered as claim 5;

claim 14 renumbered as claim 6;

Response to Arguments

3. Applicant's arguments, see pages 8-12 in Applicants' Remarks, filed on 02/01/2006, with respect to claims 3, 7-8 and 10 have been fully considered and are persuasive. The rejection of claims 3, 7-8 and 10 has been withdrawn after Applicants amended claims.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

4. Regarding claim 6, claim is allowable over prior art of record because the cited references (Liu et al. U.S. Patent 6,754,261 B1 and Uesugi et al. U.S. Patent 5,563,911) taken individually or in combination fails to particularly disclose an apparatus for suppressing intersymbol interference in a received communication channel of a modem comprising "weighting modules each with an input coupled to a corresponding successive portion of the delay line and an output coupled to the summer, and each of the weighting modules configured to scale each corresponding successive portion by the associated weighting coefficient to provide the corresponding scaled output" and "switches each associated with a corresponding weighting module to switchably control the coupling thereof between the delay line and the summer, and the switches operative to uncouple selected ones of the weighting modules to vary a number of the taps providing output to the summer".

5. Regarding claim 8, claim is allowable over prior art of record because the cited references (Liu et al. U.S. Patent 6,754,261 B1 and Uesugi et al. U.S. Patent 5,563,911) taken individually or in combination fails to particularly disclose a method for reducing intersymbol interference in a communication channel received by a multi-tone X-DSL modem coupled to the subscriber line, the method comprising "determining whether the received communication channel initiated in the initiating act exhibits a cutoff frequency less than a maximum frequency proscribed by the corresponding X-DSL communication protocol, above which cutoff frequency communications are not supportable" and

"reducing a sampling rate of the received communication channel below a sampling rate required to support the corresponding X-DSL communication protocol responsive to the determination of the cutoff frequency in the determining act".

6. Regarding claim 10, claim is allowable over prior art of record because the cited references (Liu et al. U.S. Patent 6,754,261 B1 and Uesugi et al. U.S. Patent 5,563,911) taken individually or in combination fails to particularly disclose a method for reducing intersymbol interference in a communication channel received by a multi-tone X-DSL modem coupled to the subscriber line, the method comprising "at least one scaler coupled to the TEQ and the DFT component and the at least one scaler responsive to a determination that the received communication channel exhibits a cutoff frequency less a maximum frequency proscribed by the X-DSL communication protocol to reduce both a sampling rate of a received communication channel together with a number of tones per symbol transformed by the DFT component and to increase at least one of a number of time domain equalization taps on the receive path and delays between the taps on the receive path, thereby scaling the receive path to conform with a length of the at least one subscriber line".

7. Regarding claim 14, claim is allowable over prior art of record because the cited references (Liu et al. U.S. Patent 6,754,261 B1 and Uesugi et al. U.S. Patent 5,563,911) taken individually or in combination fails to particularly disclose a modem with a transmit and receive path both configured to couple to at least one subscriber line

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comprising "weighting modules each with an input coupled to a corresponding successive portion of the delay line and an output coupled to the summer, and each of the weighting modules configured to scale each corresponding successive portion by the associated weighting coefficient to provide the corresponding scaled output" and "switches each associated with a corresponding weighting module to switchably control the coupling thereof between the delay line and the summer, and the switches operative to uncouple selected ones of the weighting modules to vary a number of the taps providing output to the summer".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KCT

Khánh Cong Tran

02/17/2006

Examiner KHANH TRAN